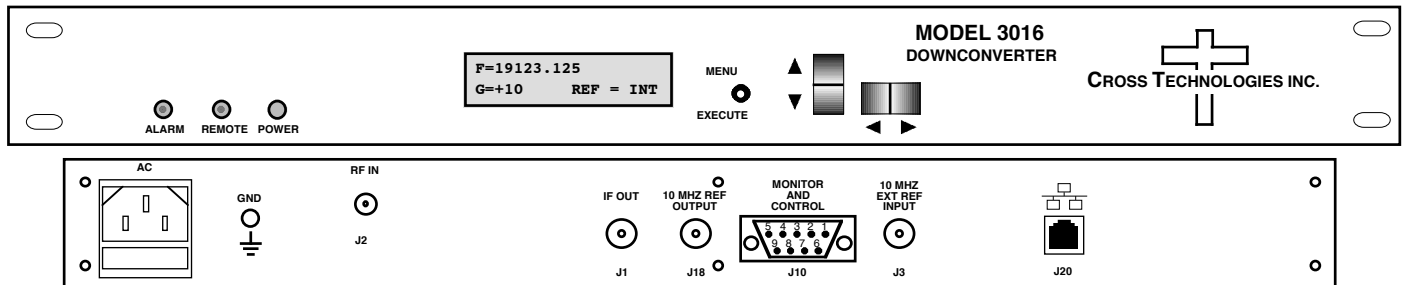


3016-1520-1200 Downconverter, 15 - 20 GHz to 1200 ± 50 MHz

The 3016-1520-1200 Downconverter converts 15 to 20 GHz to 1200 ± 50 MHz in 125 kHz steps. The 15 to 20 GHz is first converted to 7.0 GHz with an agile, high side LO and then to 1200 MHz to obtain the wide tuning range. Synthesized local oscillators (LO) provide frequency selection. Multi-function switches select the input frequency, gain, and other parameters. Front panel LEDs provide indication of DC power, PLL alarm or Remote operation. Gain is adjustable manually (MGC) over a +10 to +30 dB range. The frequency and gain are remotely selectable. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are Super SMA female for the RF, and BNC female for the IF and external 10 MHz reference input and output. Other connector options are available. It is powered by a 100-240 ±10%VAC power supply, and is in a 1 3/4" X 19" X 18" rack mount chassis.



Front and Rear Panels (Shown with optional Ethernet)

EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss **50Ω /14dB min.**
Frequency **15 to 20 GHz**
Noise Figure, max. **20 dB (max gain)**
Input Level Range **-50 to -30 dBm**

Output Characteristics (IF)

Impedance/Return Loss **75Ω /14dB min.**
Frequency **1200 ± 50 MHz**
Output level Range **-20 to 0dBm**
Output 1 dB compr. **+10 dBm**

Channel Characteristics

Gain Max/range (adj.) 30 ± 3 dB Max./ +10.0 to +30.0 dB range, 0.5dB ± 0.5 dB steps, at Fc in and out

Image Rejection **> 50 dB, min.**
Frequency Response **±3.0 dB, Fc in =15.0-20.0 GHz; ±1.5 dB; Fc in over any 1 GHz band; Fc in and out ± 50 MHz, ± 1.0 dB**
Spurious Response **< -50 dBc, in band, 15 to 20 GHz input; 1200 ±50 MHz, 0dBm, output**
Intermod **< -50 dBc for two carriers, Fc ± 2 MHz, each at -5 dBm out**
Group Delay, max **2 ns parabolic; 2 ns linear; 1 ns ripple, Fc ± 50 MHz**
Frequency Sense **Non-inverting**

Synthesizer Characteristics

Frequency Accuracy **± 0.01 ppm max over temp internal ref; ext ref. input**
Frequency Step **125 kHz minimum**
10 MHz In/Out Level **3 dBm ± 3 dB**

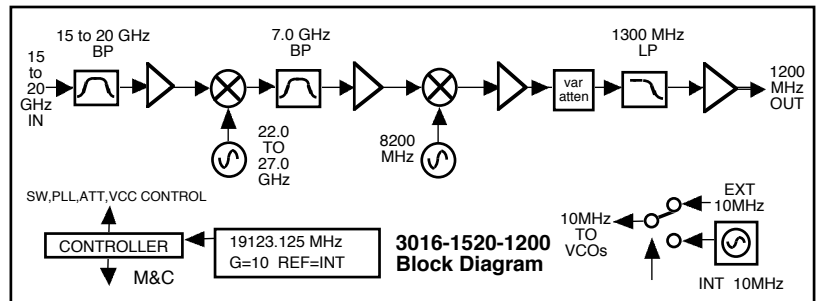
| Phase Noise @ Freq | 100 Hz | 1kHz | 10kHz | 100kHz | 1 MHz |
|--------------------|--------|------|-------|--------|-------|
| dBc/Hz | 60 | 70 | 80 | 90 | 100 |

Controls, Indicators

Freq/Gain Selection **direct readout LCD; manual or remote selection**
Power; Alarm; Remote **Green LED; Red LED; Yellow LED**
Remote **RS232C, 9600 baud (RS422/485/opt.-Q, Ethernet/opt-W8,18,28 or 828)**

Other

RF, IF Connectors **Super SMA (female), BNC,75Ω (female), (Others optional)**
10MHz Connectors **BNC (female) 75Ω, works for 50 or 75 ohms**
Alarm/Remote Conn. **DB9 (female) - NO or NC contact closure on Alarm**
Size **19 inch, 1RU standard chassis 1.75" high X 18.0" deep**
Power **100-240 ±10% VAC, 47-63 Hz, 60 watts max**



Available Options

Remote M&C Interfaces:

Q - RS485/422
W8 - Ethernet; w/Web Browser (WB)
W18 - Ethernet; w/WB & SNMP
W28 - Ethernet; w/TCP/IP, Telnet
W828 - W8 +W18 +W28

Connectors/Impedance

S - 50Ω SMA (RF), 50Ω BNC (IF)
SS - 50Ω SMA (RF), 50Ω SMA (IF)
Super SMA for > 18 GHz

Contact Cross for other options

*10°C to 40°C; Specifications subject to change without notice